

10/531314
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File No.: 9-13528-185US-1

April 12, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: John McNICOL et al.
Serial No.: National Phase of PCT/CA2003/001044
Filed: Concurrently Herewith
Title: OPTICAL DISPERSION COMPENSATION IN THE
ELECTRICAL DOMAIN IN AN OPTICAL
COMMUNICATIONS SYSTEM
Agent of Record: Kent Daniels Tel: (613) 780-8673

Mail Stop Amendment
Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
U.S.A.

Sir:

INFORMATION DISCLOSURE STATEMENT
PRIOR TO FIRST OFFICE ACTION

Pursuant to the duty of disclosure under 37 CFR 1.56, copies of the references listed on the attached PTO Forms SB/08A and SB/08B (other than U.S. patents and U.S. published applications) are submitted herewith.

The Examiner is kindly requested to consider these references during the examination of the above-identified application, making the references of record, and to return an initialed copy of the PTO Forms SB/08A and SB/08B to the below-signed agent.

In accordance with 37 CFR 1.97(h), the submission of the present information is not to be construed as an admission that such information is, or is considered to be material to patentability.

Respectfully submitted,

By:

K. Daniels
Kent Daniels, Registration No. 44,206
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Encls.

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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	-
Filing Date	-
First Named Inventor	John McNICOL
Art Unit	-
Examiner Name	-
Attorney Docket Number	9-13528-185US-1

Sheet 1 of 2

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 5,148,503	09-15-1999	Skeie	None
		US- 5,311,346	05-10-1994	Haas et al.	None
		US- 5,408,498	04-18-1995	Yoshida	None
		US- 5,416,626	05-16-1995	Taylor	None
		US- 5,513,029	04-30-1996	Roberts	None
		US- 5,579,328	11-26-1996	Habel et al.	None
		US- 5,761,225	06-02-1998	Fidric et al.	None
		US- 5,892,858	04-06-1999	Vaziri et al.	None
		US- 5,949,560	09-07-1999	Roberts et al.	None
		US- 5,999,258	12-07-1999	Roberts	None
		US- 6,067,180	05-23-2000	Roberts	None
		US- 6,115,162	09-05-2000	Graves et al.	None
		US- 6,124,960	09-26-2000	Garthe et al.	None
		US- 6,128,111	11-03-2000	Roberts	None
		US- 6,205,262	03- 20-2001	Shen	None
		US- 6,262,834	07-17, 2001	Nichols et al.	None
		US- 6,304,369	10-16-2001	Piehler	None
		US- 6,441,932	08-27,-2002	Helkey	None
		US- 6,473,013	10- 29,-2002	Velazquez et al.	None

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
		PCT WO 01/03339	01/11/2001	KONINKLIJKE PHILIPS ELECTRONICS N.V.	Whole document	
		PCT WO 01/91342	11/29/2001	PURDUE RESEARCH FOUNDATION	None	
		EP 1 223 694	07/17/2002	FUJITSU LIMITED	None	
		EP 0 971 493	01/12/2000	FUJITSU LIMITED	None	
		EP 1 237 307	09/04/2002	FUJITSU LIMITED	None	
		EP 0 524 758	01/27/1993	AMERICAN TELEPHONE & TELEGRAPH	Whole document	

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J0131000 PCT/PTO 13 APR 2005

PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 2

of 2

Application Number	-
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		Number-Kind Code ² (if known)			
		US- 6,559,994	05-06-2003	Chen et al.	Whole document
		US- 6,580,532	06-17-2003	Yao et al.	None
		US- 2002/106148	08-08-2002	SCHEMMANN ET AL.	Whole document
		US- 2002/0024694	02-28-2002	NEWELL ET AL.	None
		US- 2002/0018268	02/14/2002	PRICE ET AL.	Whole document
		US- 2001/0028760	11/11/2002	YAFFE	None
		US- 5,446,574	09/29/1995	DJUPSJOBACKA, et al.	Whole document
		US- 5,301,058	04/05/1994	OLSHANSKY	None
		US- 2003/011847	01/16/2003	Dai Fa et al.	Whole document
		US- 5,349,312	09/20/1994	Huettner, S et al.	None
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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
		WO 02/43340	05/30/2002	BROADCOM CORP; AGAZZI OSCAR E (US)	None	

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SignatureDate
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NON PATENT LITERATURE DOCUMENTS			
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		Adaptive Electronic Linearization of Fiber Optic Links, OFC 2003, Vol. 2, pp. 477-480, March 2003 Sadhwani et al.	
		Automated Measurement of Polarization Mode Dispersion Using Jones Matrix Eigenanalysis, IEE Photonics Technology Letters, Vol. 4, No. 9, pp. 1066-1069, September 1992, Heffner	
		Chromatic Dispersion Mapping by Sensing the Power Distribution of Four-Wave Mixing Along the Fiber Using Brillouin Probing, OFC 2003, Vol. 2, pp. 714-716, Herraes et al.	
		Design of Broad-Band PMD Compensation Filters, IEEE Photonics Technology Letters, Vol. 14, No. 8, August 2002, A. Eyal et al.	
		Dispersion Compensation by Active Predistorted Signal Synthesis, Journal of Lightwave Technology, Vol. LT-3, No. 4, August 1985, Thomas L. Koch and Rod C. Alfemess	
		Dispersion Compensation with an SBS-Suppressed Fiber Phase Conjugator Using Synchronized Phase Modulation, OFC 2003, Vol. 2, pp. 716-717, M. Tani	
		Electrical Signal Processing Techniques in Long-Haul Fiber-Optic Systems, 1990 IEEE-Transactions on Communications, Vol. 38, No. 9, Jack H. Winters, et al.	
		Exact Compensation for both Chromatic Dispersion and Kerr Effect in a Transmission Fiber Using Optical Phase Conjunction, Journal of Lightwave Technology, Vol. 14, No. 3, March	
		High-Dynamic-Range Laser Amplitude and Phase Noise Measurement Techniques, IEEE Journal on Selected Topics in Quantum Electronics, Vol. 7, No. 4, July/August 2001, Ryan P. Sc	
		Measurement of High-Order Polarization Mode Dispersion, IEEE Photonics Technology Letters, Vol. 12, No. 7, July 2000, Yi Li et al.	

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		Mitigation of Dispersion-Induced Effects Using SOA in Analog Optical Transmission, IEEE Photonics Technology Letters, Vol. 14, No. 8, August 2002, Duk-Ho Jeon et al.	
		Performance of Smart Lightwave Receivers With Linear Equalization, Journal of Lightwave Technology, Vol. 10, No. 8, August 1992, John C. Cartledge, et al.	
		Polarization Effects in Lightwave Systems, Craig. D. Poole and Jonathan Nage. Date unknown.	
		Polarization Modulated Direct Detection Optical Transmission Systesm, Journal of Lightwave Technology, Vol. 10, No. 12, December 1992	
		Predistortion of Electroabsorption Modulators for Analog CATV Systems at 1.55 μ m, Journal of Lightwave Technology, Vol. 15, No. 9, September 1997, Gordon C. Wilson et al.	
		Predistortion Techniques for Linearization of External Modulators, 1999 IEEE – Gordon Wilson, Lucent Technologies, NJ 07733, U.S.A.	
		Reduction of Dispersion-Induced Distortion in SCM Transmission Systems by Using Predistortion-Linearized MQW-EA Modulatirs, Journal of Lighwave Technology, Vol. 15, No. 2, Fe	
		Representation of Second-Order Polarisation Mode Dispersion, Electronics Letters, Vol. 35, No. 19, September 16, 1999, A. Eyal et al.	
		Signal Distortion and Noise in AM-SCM Transmission Systems Employing the Feedforward Linearized MQW-EA External Modulator, Journal of Lightwave Technology, Vol. 15, No. 8, Au	
		Soliton Transmission Using Periodic Dispersion Compensation, Journal of Lightwave Technology, Vol. 15, No. 10, October 1997, Nicholas J. Smith et al.	

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		Theoretical Basis of Polarization Mode Dispersion Equalization up to the Second Order, Journal of Lightwave Technology, Vol. 18, No. 4, April 2000, Teruhiko Kudou et al.	
		H. GYSEL et al. "Electrical Predistortion to Compensate for Combined Effect of Laser Chirp and Fibre Dispersion", Electronics Letters IEE Stevenage Vol. 27, No. 5, Feb 1991,	
		A. MECOZZI et al. "Cancellation of timing and Amplitude Jitter in Symmetric Links Using Highly Dispersed Pulses", IEEE Photonics Technology Letters, Vol. 13, No. 5, May 2001,	
		Ram SADHWANI, "Adaptive CMOS Predistortion Linearizer for Fiber-Optic Links, Journal of Lightwave Technology, Vol. 21, No. 12, December 2003	
		P.S. Andre, et al., "Extraction of DFB Laser Rate Equation Parameters for Optical Simulation Pusposes", Conftele 1999 ISBN 972-98115-0-4.	
		Lucas Illing, et al., "Shaping Current Waveforms for Direct Modulation of Semiconductor Lasers", Institute for Nonlinear Science, U.C. San Diego, 2003	
		P.M. Watts, et al., "Demonstration of Electrical Dispersion Compensation of Single Sideband Optical Transmission", London Communications Symposium 2003, University College Lon	
		Hoon Kim, et al., "10 Gbit/s 177 km transmission over conventional singlemode fibre using a vestigial side-band modulation format" Electronics Letters, Vol. 37, No. 25 Dec 6, 2001 pp 1533-1534.	
		Henning Bulow, et al., "Dispersion Mitigation Using a Fiber-Bragg-Grating Sideband Filter and a Tunable Electronic Equalizer", Optical Society of America, 2000.	
		M. Sieben, et al., "10Gbit/s optical single sideband system" Electronics Letters, Vol. 33, No. 11, May 22, 1997, pp 971-973.	

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		Feldhaus G., "Volterra Equalizer for Electrical Compensation of Dispersion and Fiber Nonlinearities", Journal of Optical Communicatinos, Fachverlag Schiele & Schon, Berlin, De, vol. 23, no. 3, June 2002 (2002-06), pages 82-84, XP001130377, ISSN: 0173-4911.	
		SCHAFFER, Troy A. et al "A 2GHz 12-bit Digital-to-Analog Converter for Direct Digital Synthesis Applications", GaAs IC Symposium, pages 61-64	
		KAMOTO, T. et al "An 8-bit 2-ns Monolithic DAC", IEEE Journal of Solid-State Circuits, February 1988, Vol. 23, No. 1	

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